SPECIES: Scientific [common]	*Draba globosa* [Rockcress whitlow-grass]
Forest:	Bridger-Teton National Forest
Forest Reviewer:	**Rose Lehman; Trevor Bloom**
Date of Review:	**3/25/2020; 3/31/2021; 4/8/2025**
Forest concurrence (or recommendation if new) for inclusion of species on list of potential SCC: (Enter Yes or No)	**Yes**

FOREST REVIEW RESULTS:

1. The Forest concurs or recommends the species for inclusion on the list of potential SCC:
   Yes__ No__X_

2. Rationale for not concurring is based on (check all that apply):
   Species is not native to the plan area _____
   Species is not known to occur in the plan area _____
   Species persistence in the plan area is not of substantial concern __X____

FOREST REVIEW INFORMATION:

1. Is the Species Native to the Plan Area? Yes_X__ No___

   If no, provide explanation and stop assessment.

2. Is the Species Known to Occur within the Planning Area? Yes_X__ No____

   If no, stop assessment.

Table 1. All Known Occurrences, Years, and Frequency within the Planning Area

Year Observed	Number of Individuals	Location of Observations (USFS District, Town, River, Road Intersection, HUC etc.)	Habitat Description	Source of Information[1]
7/30/1978		Lincoln County: Ca 12 air mi SE of Afton, West Sheep Pass, Spring Creek area. 42.6° N, 110.75° W; uncertainty 1 mi.	Growing with *Saxifraga rhomboidea* and *Senecio fremontii* in detritus in exposed moist soil on northeast slope. Elev. 10450 ft. Phenology: flowering & fruiting.	Collector: Orval C. Harrison, 219 (Rocky Mountain Herbarium 2020, SEINet 2020)
8/9/1990		Sublette County: West Slope Wind River Range: Gypsum Mountain; ca 28	Open, flat alpine summit of peak. Elev. 11500 ft. Phenology: fruiting.	Collector: Walter Fertig, 5748 (Rocky Mountain

		air mi N of Pinedale. 43.26917° N, 109.91694° W; uncertainty 2 mi.		Herbarium 2020, SEINet 2020)
8/17/1991		Sublette County: West Slope Wind River Range: Lost Eagle Peak and saddle connecting to White Rock Mountain, ca 3/4 mi SE of Slide Lake, ca 27 air mi N of Pinedale. 43.2608° N, 109.7594° W; uncertainty 2 mi.	Rocky grass-covered alpine summit. Open canopy rocky talus slope on west face and saddle connecting to White Rock Mountain. Elev. 10800-11600 ft.	Collector: Walter Fertig, 11663 and Walter Fertig, 11692 (Rocky Mountain Herbarium 2020, SEINet 2020)
8/4/1992		Sublette County: West Slope Wind River Range: summit of Big Sheep Mountain, ca 1.5 air mi W of Lower Green River Lake; ca 28.5 air mi N of Pinedale. 43.26889° N, 109.87861° W; uncertainty 0.5 mi.	Open canopy base of stable talus slope. Phenology: fruiting. Elev. 11200-11400 ft.	Collector: Walter Fertig, 13240 (Rocky Mountain Herbarium 2020, SEINet 2020)
7/8/1994		Teton County: Absaroka Mountains: Bridger-Teton National Forest: 1.5 mi N of U.S. Hwy 26/287, ca 6 mi NW of Togwotee Pass. 43.8229° N, 110.1227° W	Rocky summit with patches of spruce *krumholz, Potentilla diversifolia, Smelowskia calycina, and Lloydia serotina*. Elev. 10500 ft.	Collector: Erwin F. Evert, 27902 (Rocky Mountain Herbarium 2020, SEINet 2020)
6/28/1994		Teton County: Gros Ventre Area: head of Swift Creek trail to ca 1/4 air mi NE of top of Corner Mountain. 43.3793° N, 110.3862° W; uncertainty 2 mi.	Calcareous substrates. Elev. 9500-11000 ft.	Collector: Ronald L. Hartman, 46939 (Rocky Mountain Herbarium 2020, SEINet 2020)
8/5/1994		Sublette County: Gros Ventre Area: Palmer Peak. 43.3567° N, 110.3323° W	Rocky alpine slopes and summits, calcareous. Elev. 10600-11400 ft.	Collector: Ronald L. Hartman, 49371 (Rocky Mountain Herbarium 2020, SEINet 2020)
8/4/1998		Sublette County: Gros Ventre Range: slopes at southwest base of Triangle Peak, along divide between	Tilted limestone/dolomite bedrock slabs dipping steeply to southeast amid wet meadows of	Collector: Walter Fertig, 18509 (Rocky Mountain Herbarium 2020, SEINet 2020)

		Doubletop and Palmer peaks, ca 1 mi Sof Brewster Lake. 43.3567° N, 110.2931° W; uncertainty 0.25 mi.	*Carex/Ranunculus* and late snow patches; rock cover 75-80%. Elev. 10600 ft.	
8/4/1998		Teton County: Gros Ventre Range: southeast flank of Darwin Peak, ca 0.5 mi N of Brewster Lake. 43.3853° N, 110.2931° W; uncertainty 0.25 mi.	Near top of limestone talus ridge on south facing slope. Sparsely vegetated with *Salix reticulata, Potentilla ovina, Saxifraga oppositifolia, Phlox pulvinata,* and *Polemonium viscosum*. Elev. 10800 ft.	Collector: Laura Welp, 7901b (Rocky Mountain Herbarium 2020, SEINet 2020)
8/4/1998		Sublette County: Gros Ventre Range: north side of Triangle Peak, ca 0.4 mi E of Brewster Lake; ca 2 mi SW of Lunch Lake. 43.371° N, 110.2735° W; uncertainty 0.25 mi.	Alpine cushion plant community on ridgeline bordering northeast facing cirque; vegetative cover (including lichen crust) ca 40%, limestone-gravel cover 40%, bare soil 20-30%; dominant species include *Silene acaulis, Phlox pulvinanta, Selaginella densa*. Elev. 10400-11000 ft.	Collector: Walter Fertig, 18489 (Rocky Mountain Herbarium 2020, SEINet 2020)
8/2/1998		Sublette County: Wind River Range: summit of Osborn Mountain on north side and head of Mill Creek, ca 3 air mi NE of Lower Green River Lake. 43.3347° N, 109.7823° W; uncertainty 0.25 mi.	Alpine cushion plant community on light-colored Archaean granitic-gneiss boulder and talus field on rim and summit above deep canyon. Granite boulder and talus field on summit above deep canyon in alpine cushion plant community. Phenology: flowering. Elev. 11400-11600 ft.	Collector: Laura Welp, 7888 and Walter Fertig, 18475 (Rocky Mountain Herbarium 2020, SEINet 2020)
7/25/2006		Outside BTNF (0.16 miles to east): Fremont County: East Slope Wind River Range and Vicinity: Angel Pass to Dennis	Scree slope. Elev. 10770-11490 ft. Phenology: fruiting.	Collector: Rob Massatti, 7906 (Rocky Mountain Herbarium 2020, SEINet 2020)

		Lake, ca 11 air mi SE of Gannett Peak. 43.02° N, 109.5518° W to 43.0175° N, 109.5125° W; GPS Reading.		
8/22/2011	Uncommon	Lincoln County: Bridger-Teton National Forest: Salt River Range: between Sheep Pass and Greysalt Peak area, ca 10 air mi E of Smoot. T30N R117W S9 NE1/4; also S10 NW1/4	Rocky rubble with sparse vegetation on upper, north-facing slopes near summit and midway. With *Silene acaulis, Saxifraga rivularis, S. rhomboidea, Senecio fremontii*. Elev. 10200-10720 ft.	Collector: Bonnie Heidel, 3592 (Rocky Mountain Herbarium 2020, SEINet 2020)
7/15/2017		Bridger-Teton National Forest: Jackson Hole Mountain Resort: Top of Corbet's Couloir: white limestone shelf. 43.595833, -110.86833	Semi-barren alpine, cushion plant communities. Limestone outcrops.	Collector: Charmaine Delmatier. Specimen Number 905280

[1]The Consortium of Pacific Northwest Herbaria (Consortium of Pacific Northwest Herbaria 2020) was also searched, and no additional occurrences on the Bridger-Teton National Forest were found.

a. Are all Species Occurrences Only Accidental or Transient?

Yes___ No_X__

If yes, document source for determination and stop assessment.

b. For species with known occurrences on the Forest since 1990, based on the number of observations and/or year of last observation, can the species be presumed to be established or becoming established in the plan area?

Yes_X__ No__

If no, provide explanation and stop assessment

c. For species with known occurrences on the Forest predating 1990, does the weight of evidence suggest the species still occurs in the plan area?

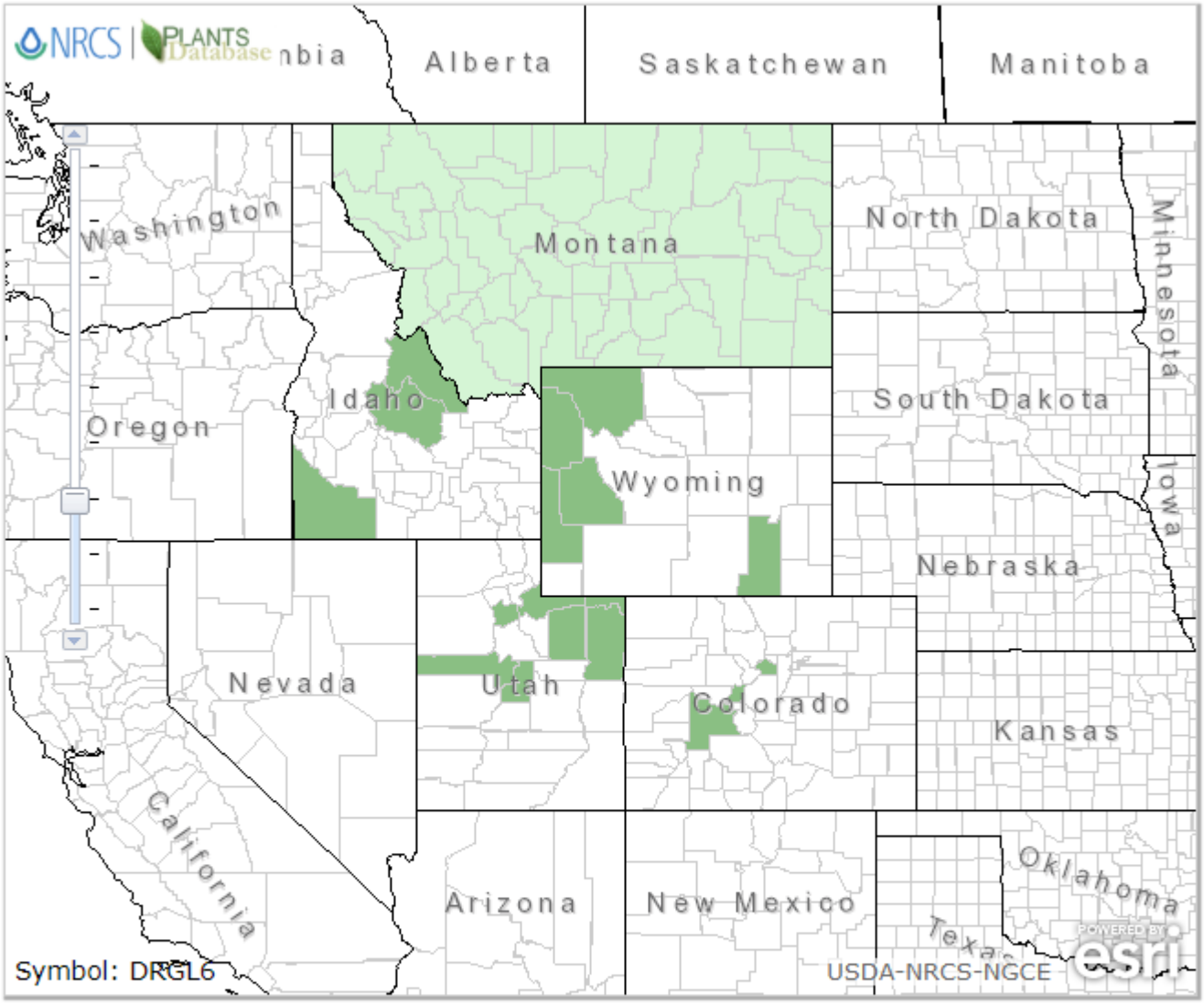
Yes___ No___

Provide explanation for determination

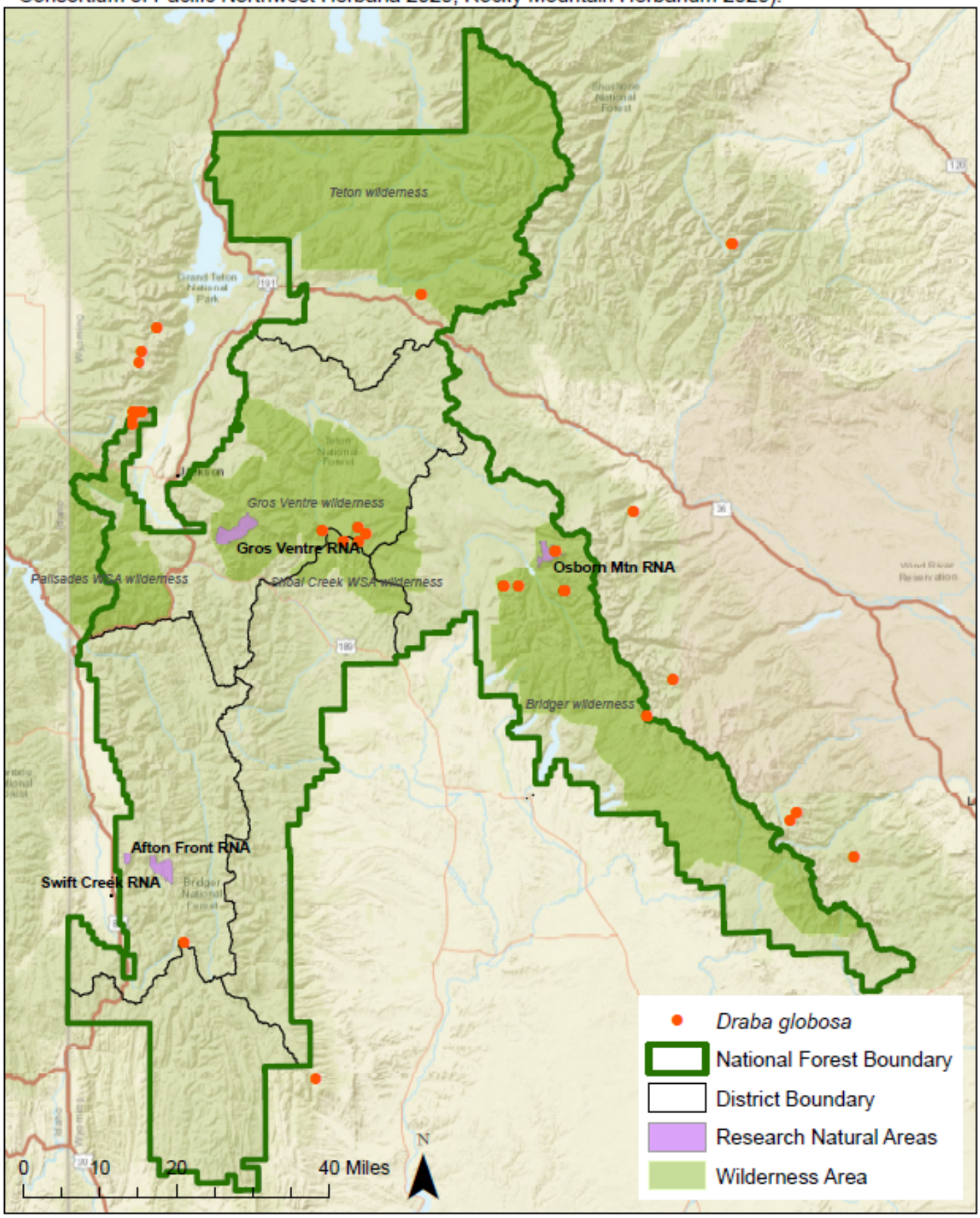
N/A–Occurrences have been documented since 1990.

If determination is no, stop assessment

Map 1, *Draba globosa* range in Wyoming and surrounding states (NRCS 2019).



Map 2, *D. globosa* occurrences in Bridger-Teton National Forest vicinity (SEINet 2020; Consortium of Pacific Northwest Herbaria 2020; Rocky Mountain Herbarium 2020).



3. Is There Substantial Concern for the Species' Capability to persist Over the Long-term in the Plan Area Based on Best Available Scientific Information?

Table 2. Status summary based on existing conservation assessments

Entity	Status/Rank (include definition)
NatureServe Global Status	**G3 —Vulnerable** *At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.*
NatureServe State Status	**S3—Vulnerable** *At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.*
WYNDD	**Plant Species of Potential Concern** **G3/S2S3** *Species that appear to be secure at present, but because they have limited distribution as regional or state endemics they could become vulnerable under large-scale changes. Species with this status warrant periodic checks.* (Wyoming Natural Diversity Database 2018 - Species of Potential Concern)
USDA Forest Service	**Region 4 Sensitive** It was recommended for de-listing by Stone (1995). *Those plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by* *a. Significant current or predicted downward trends in population numbers or density.* *b. Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.* (FSM 2670.5 – Threatened, Endangered & Sensitive Species)
USDOI FWS	Not listed
USDOI BLM	Not listed
IUCN	Not listed

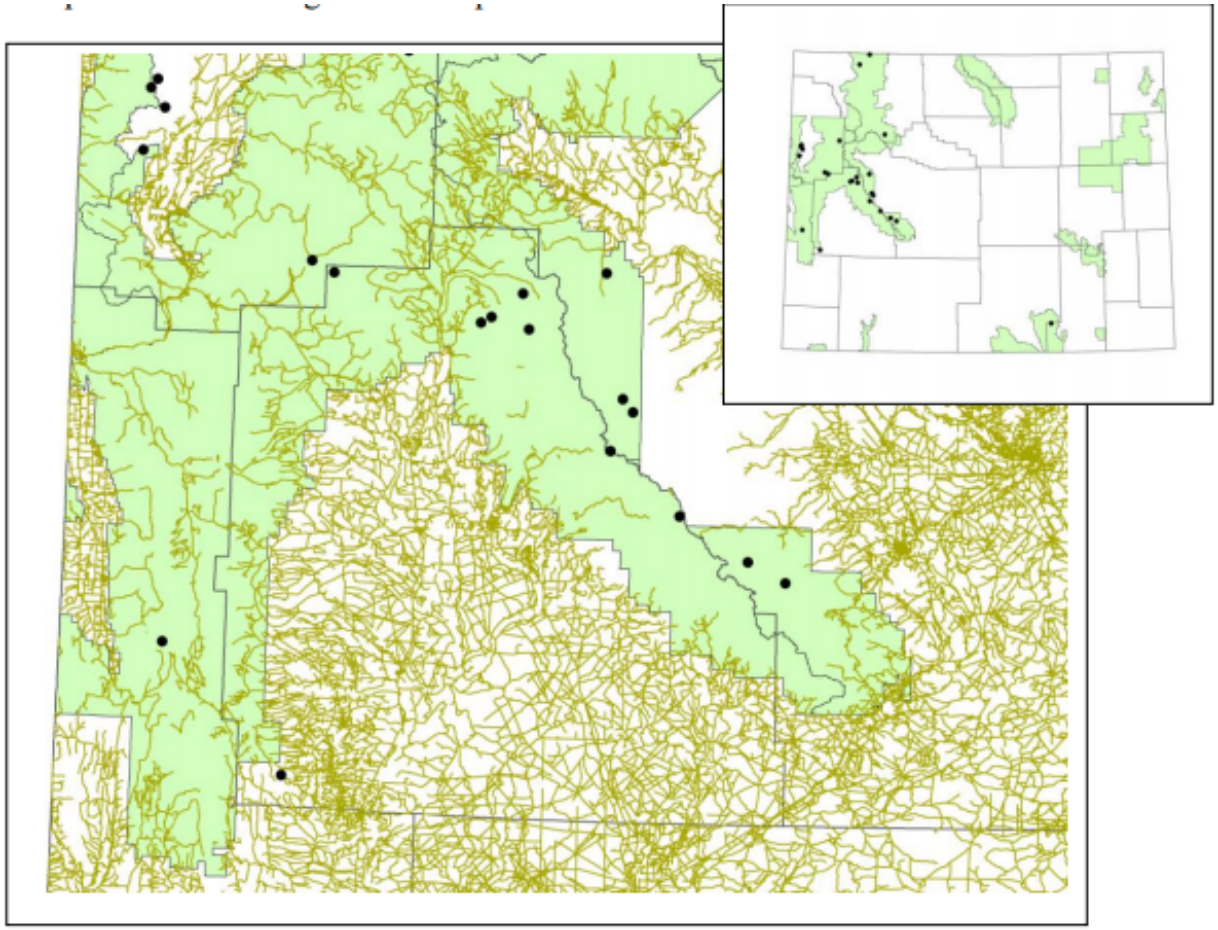
Sources: WYNDD 2020; Heidel 2018; USDA Forest Service Regions 2 and 4 Sensitive Species Lists; NatureServe 2020

Table 3. Status summary based on best available scientific information.

<table>
<tr><th>Criteria</th><th>Rationale</th></tr>
<tr><td>Distribution on the Bridger-Teton National Forest</td><td>Table 1 and Map 2 shows Draba globosa occurrences in the Bridger-Teton National Forest. Furthermore, Table 3-1 provides additional information on occurrences in the BTNF summarized from Heidel's 2012 survey efforts for the Salt Range. Most of the occurrences in Bridger-Teton are located in designated wilderness.

Table 3-1 Occurrences of Draba globosa in BTNF
<table>
<tr><th>Location</th><th>County</th><th>Elevation m (ft)</th><th>USGS 7.5' Quad</th><th>Public Land</th></tr>
<tr><td>Bridger-Teton National Forest: Jackson Hole Mountain Resort: Top of Corbet's Couloir: white limestone shelf</td><td>Teton</td><td>3130 (10265)</td><td>Rendezvous Peak</td><td>Jackson RD</td></tr>
<tr><td>Northwest Wind River Range; summit of Gypsum Mountain ca 3 air miles southwest of Lower Green River Lake ca 28 air miles north of Pinedale.</td><td>Sublette</td><td>3505 (11500)</td><td>Big Sheep Mountain</td><td>Pinedale RD</td></tr>
<tr><td>Northwest Wind River Range; west slope of Lost Eagle Peak and saddle connecting to the southeast end of White Rock Mountain ca 0.75 miles south of Slide Lake ca 2.4 miles east of Upper Green River Lake ca 26 air miles north of Pinedale.</td><td>Sublette</td><td>3231- 3414 (10600- 11200)</td><td>Green River Lakes</td><td>Pinedale RD</td></tr>
<tr><td>West Slope Wind River Range; summit of Big Sheep Mountain ca 1.5 air miles west of Lower Green River Lake ca 28.5 air miles north of Pinedale.</td><td>Sublette</td><td>3414- 3475 (11200- 11400)</td><td>Big Sheep Mountain</td><td>Pinedale RD</td></tr>
<tr><td>Northwest Wind River Range; summit of Osborn Mountain on north side and head of Mill Creek ca 3 air miles northeast of Lower Green River Lake.</td><td>Sublette</td><td>3475- 3536 (11400- 11600)</td><td>Green River Lakes</td><td>Pinedale RD</td></tr>
<tr><td>Wind River Range; 1 mile southeast of Lee Lake between Pronghorn Peak and Nylon Peak [ca 1 mile east of Dragonhead Peak near the Continental Divide].</td><td>Sublette</td><td>3353 (11000)</td><td>Roberts Mountain</td><td>Pinedale RD</td></tr>
</table>
</td></tr>
</table>

Criteria	Rationale				
	Salt River Range; West Sheep Pass area immediately north of Greysalt Peak summit and at lowest ridgeline outcrop west of pass; ca 12 air miles southeast of Afton.	Lincoln	3109- 3267 (10200- 10720)	Mount Wagner/ Poison Meadows	Greys River RD/ Kemmerer RD
	Teton Range; Jackson Hole Mountain Resort top of tram and immediately north Tensleep Bowl and Rendezvous Mountain on ridge between Granite Canyon and Jackson Hole ca 1 mile southwest of Aprez Vous Peak and ca 1.5 air miles northwest of Teton Village ca 11-12 air miles north-northwest of Jackson.	Teton	2743- 3185 (9000- 10450)	Rendezvous Peak/ Teton Village	Jackson RD
	Gros Ventre Mountains; head of Swift Creek Trail to ca 0.25 mile northeast of top of Corner Mountain.	Teton	3292 (10800)	Crystal Peak/ Darwin Peak/ Doubletop Peak/ Granite Falls	Jackson RD
	Gros Ventre Range; slopes and saddles interconnecting Palmer, Darwin, Triangle, and Double Peaks, ca 6-8.5 miles east of Granite Hot Springs, 12.5-15 miles west of the Green River, and 14.5-16.5 miles north of US Highway 189 at "The Rim", 4 subpopulations within a 2 x 2.5 mile area (1) slopes of Palmer Peak, ca 0.75 miles east of the Teton/Sublette county line, (2) south end of the Darwin Peak massif, (3) north slope of Triangle Peak, ca 0.4 miles east of Brewster Lake and ca 2 miles southwest of Lunch Lake, (4) steeply east-dipping saddle and ridgecrest between the southwest end of Triangle Peak and north side of Doubletop Peak.	Sublette/ Teton	3170- 3353 (10400- 11000)	Darwin Peak/ Doubletop Peak	Big Piney RD
	Absaroka Mountains; ridge to the east of Angle Mountain, 1.5 miles north of US Highway 26/287, ca 6 miles northwest of Togwotee Pass	Teton	3200 (10500)	Angle Mountain, Togwotee Pass	Buffalo RD
	Source: Heidel 2012. Updated by Bloom 2025.				

Criteria	Rationale
Distribution outside the Bridger-Teton National Forest	Regional endemic of Idaho, Montana, Colorado, Utah, and Wyoming. In Wyoming it is known from the Absaroka, Teton, Wind River, Beartooth, Medicine Bow, Gros Ventre, and Salt River ranges and the Overthrust Belt in Albany, Fremont, Lincoln, Park, Sublette, and Teton counties. At least 19 occurrences are found in designated Wilderness Areas (Bridger, North Absaroka, Gros Ventre, Fitzpatrick, Teton, and Popo Agie), Grand Teton National Park, and the Osborn Mountain Research Natural Area (Bridger-Teton NF). Known from 25 extant occurrences in Wyoming, most of which have been documented since 1990 (most recently surveyed in 2011) (**Figure 3-1**). Ten are on the Bridger-Teton NF (Heidel 2012).  Figure 3-1: Distribution of *Draba globosa* in Region 4 (Wyoming) of the U.S. Forest Service (Heidel 2012)

Criteria	Rationale
Abundance on the Bridger-Teton National Forest	Few populations have been surveyed. Fertig and Welp observed two large populations in the Bridger-Teton National Forest that numbered 500-3000 plants. Individual colonies may contain 10-30 plants in small clusters (WYNND 2008).
Population Trend on the Bridger-Teton National Forest	Few populations of *Draba globosa* have been surveyed. Fertig and Welp observed two large populations in the Bridger-Teton National Forest that numbered 500-3000 plants. Individual colonies may contain 10-30 plants in small clusters. The Greysalt Peak population had an estimated 40+ plants, but it is possible there are scattered individuals on loose talus that was not surveyed (Heidel 2012).
Habitat Trend on the Bridger-Teton National Forest	Almost all occurrences are on mountaintops or on upper slopes. The Salt River Range occurrence is found within 10 m of the Greysalt Peak summit, and on the finger ridge over 150 m lower that connects to Sheep Pass (Heidel 2012).
Threats to the Species and its Habitat on the Bridger-Teton National Forest	Somewhat protected from human threats by its inaccessible habitat. Several populations located within ski resort development areas at risk, including the recently discovered populations near the summit of Rendezvous peak. Past impacts from sheep grazing at high elevations are poorly known. However, conservation of Rockcress draba as a regional endemic at the core of its range is generally a High conservation priority, though it has many occurrences over a wide area. Nevertheless, as a limited distribution species with a significant portion of its distribution in Wyoming, it is maintained on the Watch List (Heidel 2012). Past impacts from sheep grazing at high elevations are poorly known, but most occurrences are at sufficiently high elevation, low productivity habitat or physically protected sites that receive little use or impacts (Heidel 2012). To analyze trends in habitat, aerial imagery and a USFS GIS database of existing grazing allotments, invasive plant populations, historical wildfires, trails, roads, Wilderness Areas, and Research Natural Areas (RNAs) was assessed at each occurrence (USFS GIS 2020, Google Earth Pro 2020). Because alpine vegetation and barren rock mainly occur in designated wilderness, roadless, or remote areas where human interference disturbance is minimal, alpine communities are considered to be relatively stable. However, alpine communities are possibly the ecosystems in the region that are most at risk from the effects of climate change because of their shrinking habitat. According to Intermountain Adaptation Partnership assessments, alpine communities have a high sensitivity to climate change, a low adaptive capacity, and very high vulnerability to climate change (Halofsky, et al. 2018). Climate change is expected to cause increasingly warmer and wetter conditions, with worsening summer drought, and alpine areas may transition from snow-dominated to rain-dominated. An extended growing season is projected to occur in the alpine which can result in interspecific competition for resources, changes in plant community composition and displacement of rare plant populations where they currently occupy specific niches (Halofsky et al. 2018).

Criteria	Rationale
	Alpine systems are dependent on snowfields and gradual snowmelt to maintain moisture for vegetation. Warming temperatures, increased drought, and changes in the depth and persistence of snowpack, surface water flow, and timing of peak runoff are projected to greatly affect alpine habitat in the Intermountain Region (Halofsky et al. 2018). The composition and distribution of alpine ecosystems will be affected by decreasing snowpack. For high-elevation vegetation, climate change may affect seed germination and survival by modifying moisture availability and therefore result in reduced plant success. Specific effects will depend on vulnerability thresholds of the characteristic species and the rate and magnitude of changes over time. Reduced snowpack with warming is likely to cause major changes in alpine plant communities (Halofsky, et al. 2018). Some loss of alpine vegetation communities, especially mesic meadows, attributed to upslope migration of trees and shrubs may occur (Halofsky et al. 2018). Some, subalpine communities may have potential to migrate higher in elevation as a response to changing conditions, but this may be limited by underdeveloped soils at higher altitudes. Furthermore, the rate of climatic change in alpine communities may outpace the ability of species to shift their distribution (Ash et al. 2016; Dirnbock et al. 2011). Other communities may already exist at the highest elevations in the BTNF and, therefore, may have limited upward migration potential. Rare plant populations that may be small, isolated, tied to snowpack abundance and distribution timing changes of spring thaw and fall frost cycles, and/or have limited dispersal capacity, are highly vulnerable to impacts from environmental change including reductions in pollination. Changes in temperature and precipitation may also lead to greater variability in forb flowering, which could create an asynchronistic effect with native pollinator emergence (Halofsky et al. 2018; Miller-Struttmann et al. 2015), leading to decreased reproduction in native plants. As pollinators are critical for successful reproduction and seed set for approximately 85% of flowering species globally (Hatfield et al. 2012), this asynchronistic effect may have profound implications.
Life history and demographic characteristics of the species	*Draba globosa* is a sensitive species of alpine habitat that extends from southwestern Montana to northern Utah and central Colorado. Rockress draba is a mat forming perennial herb with stems 0.5-3 cm tall. Leaves are lance-shaped, 3-6 mm long, less than 3 mm wide, and crowded in a basal rosette. The leaves are glabrous except for the margins which have unbranched (simple) hairs. The inflorescence consists of 2-5 yellow (rarely white) flowers with 4 petals. Habitat includes moist, gravelly alpine meadows, slopes, summits, swales, talus, and tundra, often on limestone derived soils at elevations of 8100-12400 feet (WYNND 2008; Heidel 2012).
Date: January 30. 2020	

Criteria	Rationale
Reviewer: Julie Remp	

Summary and Recommendations
Species (Scientific and Common Name): *Draba globosa*
D.globosa is listed as S23 in Wyoming and G3 globally. It is a WYNDD Species of Potential Conservation Concern and is currently a Region 4 Sensitive species. This species is a regional endemic of Idaho, Montana, Colorado, Utah, and Wyoming. Conservation of this species in its core range is a high conservation priority. On the BTNF there are at least 11 documented occurrences. This species inhabits alpine habitat of mountain tops or upper slopes. Alpine habitats are likely stable on the forest but may decrease due to climate change effects and ski resort development. Long term change in snowpack and temperature is a main threat to these areas and may alter habitat conditions in the future. Given the multiple populations that are mostly in wilderness or alpine environements, it is bot recommended that *D.globosa* be managed as an SCC but that it be maintained on a watchlist for future consideration.
Evaluator: Rose Lehman Date: 03/31/2021 Updated: Trevor Bloom Date: 04/07/2021

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